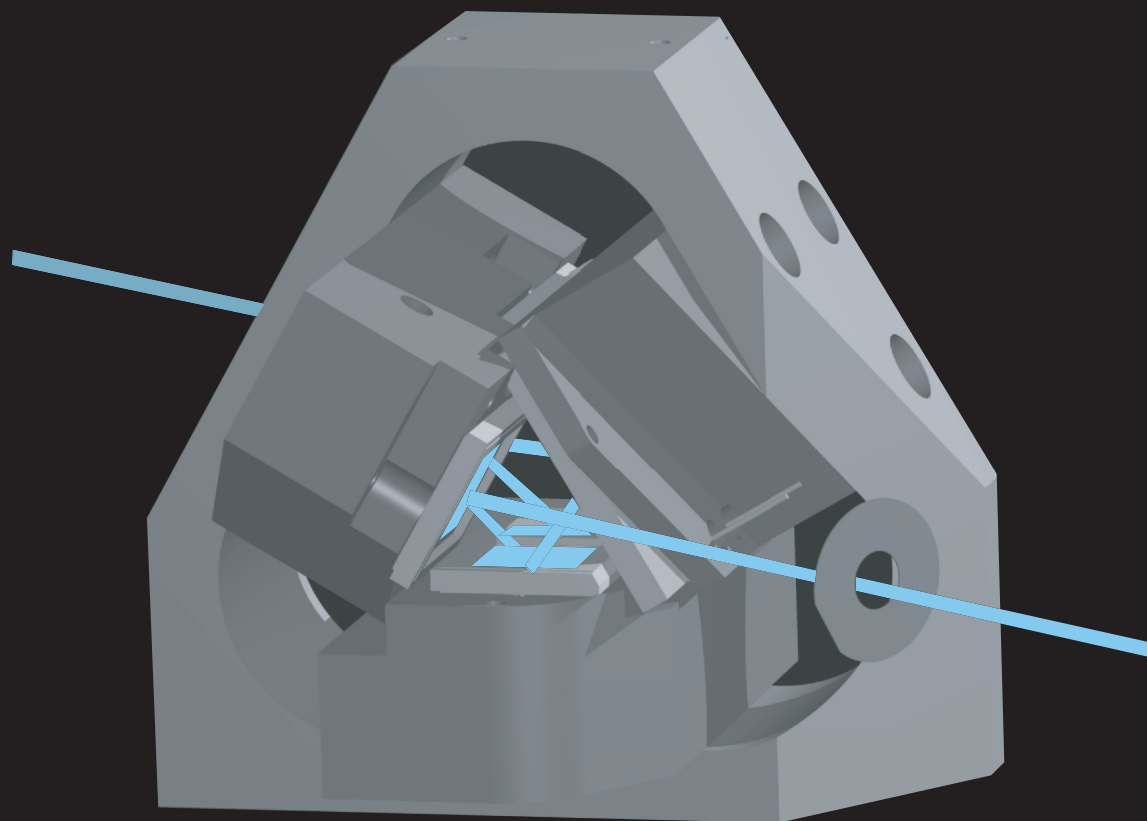


Journal of Research of the National Institute of Standards and Technology

November - December 2000, Vol. 105, No.6 ISSN 1044-677X



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National Institute of Standards and Technology
Technology Administration, U.S. Department of Commerce

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- Information Services and Computing
- Software Diagnostics and Conformance Testing
- Statistical Engineering

¹ At Boulder, CO 80303.

² Some elements at Boulder, CO.

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Volume 105

Number 6

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Cover: Computer modeling of a triangular tunnel-trap detector described in the article on p. 813. Six silicon photodiodes of two different sizes are mounted in a light-trapping arrangement to measure optical radiation within an 8° field-of-view. This new-generation transfer standard detector can be directly calibrated against the primary standard cryogenic radiometer. It can measure both radiant power and irradiance in the ultraviolet, visible, and near-infrared ranges with a relative standard uncertainty of 0.05 %. To illustrate the physical size of the tunnel-trap detector, the internal diameter of the input aperture, located in the lower-right corner, is 5 mm. Cover illustration by D. Lynch.

The *Journal of Research of the National Institute of Standards and Technology*, the flagship periodic publication of the national metrology institute of the United States, features advances in metrology and related fields of physical science, engineering, applied mathematics, statistics, and information technology that reflect the scientific and technical programs of the Institute. The *Journal* publishes papers on instrumentation for making accurate measurements, mathematical models of physical phenomena, including computational models, critical data, calibration techniques, well-characterized reference materials, and quality assurance programs that report the results of current NIST work in these areas. Occasionally, a Special Issue of the *Journal* is devoted to papers on a single topic. Also appearing on occasion are review articles and reports on conferences and workshops sponsored in whole or in part by NIST.

ISSN 1044-677X

Coden: JRITF

Library of Congress Catalog Card No.: 89-656121

United States Government Printing Office, Washington: 2000

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Available online
<http://www.nist.gov/jres>

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